APPENDIX F: RESPONSE TO PUBLIC COMMENTS

Comment #1 - No allocation or exception has been made for future construction or maintenance projects in or along Prospect Creek and its tributaries.

Response #1 - We agree with the concerns expressed in this comment and have added language in Section 4.3.3 that specifically recognizes that metals loading that has already reached the stream and is within bottom sediments is not included within the allocations and is not identified as a unique source of loading to the stream. The streams will continue to transport this metals load in a downstream direction as part of the sediment transport that has occurred for several decades since metals mining began in this watershed, and possibly prior to mining due to natural background conditions. The allocations are not intended to require instream or floodplain metals restoration work unless a specific problem area is encountered or later identified, such as an old mine waste pile along an eroding streambank or within the floodplain. Under these circumstances, the allocations linked to historical mining would apply and some form of remediation may be necessary to mitigate or remove this threat. It is also recognized that there may be natural sources along some stream locations where a metals bearing vein intersects the stream bed and impacts to these type of locations should be avoided to the extent possible.

Federal and State permits necessary to conduct work within a stream or stream corridor are intended to protect the resource and reduce, if not completely prohibit, pollutant loading or degradation from the permitted activity. The permit requirements typically have mechanisms that allow for some short term impacts to the resource, as long as all appropriate measures are taken to reduce impact to the least amount possible. Language has also been added in Section 4.5 to note these protective requirements and to note that any future work should consider the potential metals loading that could occur if the work were to intersect a natural metals vein or where there is evidence of potential mining wastes other than deposited sediments from upstream and hillside erosional processes.

Comment #2 - We believe that sampling for Total Suspended Sediment (TSS), in addition to the proposed sampling for Total Dissolved Solids (TDS) will contribute substantially to the databases for both metals and sediment source identification.

Response #2 - TSS sampling has been added as a suggested sample parameter to the Preliminary Water and Sediment Sampling Analysis Plan (Appendix D) when evaluating metals conditions within the watershed. The TMDLs for Metals in Prospect Creek is one portion of the overall strategy to attain water quality standards for impaired water bodies within the Prospect Creek Watershed. An additional effort is underway to develop a companion document, to be completed by the end of 2006, that addresses impairments from pollutants other than metals, of which sediment is the major contributing factor. This document will include sediment monitoring suggestions and may include TSS monitoring recommendations based on an evaluation of monitoring goals and stakeholder comments such as the one provided here. Any information gathered to characterize pollutant conditions or sources within the watershed, regardless of the original pollutant

associated with the request or the source of that information, will be used conjunctively to assess the overall impact to the watershed.

Comment #3 - As noted in several places in section 3.2, Source Assessment Results, resuspension of metals-bearing stream sediments during higher flows (derived either from natural or mining-related sources) are another potential metals loading source in the streams. Consequently it is important to quantify the relationships between suspended or remobilized sediments and metals loading.

Response #3 TSS sampling is included in conjunction with metals sampling as discussed in Comment 2, but overall, we see the load from resuspension of metals bearing sediments within the substrate as a short-term, transient source which will flush through the system once the non-stream channel sources, other than natural, are mitigated. The goal is to identify any historical sources that are still providing new metals loading to the stream so that these sources can be remediated and the stream will eventually reach water quality standards, with recognition that this may take several years until existing metals within the streams are transported out of the system. Please note: the Section 3.2 referenced to has been moved to section E.1

Comment #4 - The draft TMDL proposes only four sites for sediment sampling.

Response #4 - As more information is gathered regarding potential sources, more sediment metals sampling locations may be added to better characterize stream and source conditions. Language has been added to Section 5.3.2 to reflect this increased sampling possibility.

Comment #5 - It appears that macroinvertebrate and periphyton samples will be the sole basis for determining sediment metals compliance. While it is true that there are no regulatory standards for metals in sediment, there are other published, quantitative guidelines. Biotic indicators have value as secondary indexes, but can be affected by many unrelated factors, including climatic events.

Response #5 - The metals target approach and application discussed in Section 4.1 recognizes these situations. This is why the biotic targets are only linked to conditions where it can be shown that impacts are due to metals. If such conditions exist, then the stream will be considered impaired for metals. Also, if a numeric standard is exceeded, then the stream will be considered impaired for metals independent of the biotic metals results. The published, quantitative guidelines for metals in sediment are used as part of the target suite, but only from the perspective that more data is necessary to ensure that there is not an impairment condition not yet observed due perhaps to a limited amount of spatial or temporal biotic or water chemistry data. Our narrative standards are related to metals sediment chemistry if they impact aquatic life.

Comment #6 - Is there a time-frame for re-opening the TMDL after the results of increased sampling are available? When and how are revisions of the TMDL initiated?

> **Response #6** - According to state law, all TMDLs are to undergo review five years after approval from U.S. EPA to determine their effectiveness in achieving the state standards for each impaired water body. A newly formed section within the Montana Department of Environmental Quality has been charged specifically with the review of completed TMDLs and effectiveness assessment. During this review process, MDEQ may conclude that modifications are necessary to the TMDL based on additional data or the results of implementation activities. The adaptive management Section 4.5 addresses this potential need for TMDL modifications in recognition of the MDEQ review process.

Comment #7 - Figures 1-1 and 3-1 are not readable. The locations of sampling sites and other activities are important for interpretation of the data.

> **Response #7** - Figure 3-1 has been modified to more clearly represent the sampling sites and abandoned mine locations. Figure 1-1 provides a general representation of the watershed and the resolution is appropriate for the related discussion.

Comment #8 - Section 2.1 states that the "Prospect Creek watershed drains 169 square miles," which does not agree with the USGS figure of 182 square miles.

> **Response #8** - The document has been corrected to reflect that the watershed drains 182 vs. 169 square miles.

Comment #9 - Section 2.2, "Land Ownership," states "The U.S. Forest Service is the dominant landowner in the Prospect Creek drainage, with YPL and private landowners owning a fraction of the overall watershed area." YPL owns no land in the Prospect Creek drainage.

> **Response #9** - Revision: The document has been changed to reflect the fact that YPL owns no land in the Prospect Drainage.

Comment #10 - Table 2-3 states that Lower Prospect creek is 84.7 miles in length and Upper Prospect Creek is 61.2 miles in length. Section 1.2 describes Prospect Creek as being 18.9 miles in length from the headwaters to the mouth.

> **Response #10** - Response: Table 2-3 includes summary information by HUC 6 watershed, as indicated in the first column heading within the table. The stream lengths are for all streams represented within each respective HUC 6 watershed. The stream length description as it appears in Section 1.2 is specific to the 303(d) listed segment of Prospect Creek itself. In researching the response to this comment, it was found that the Prospect Creek length as identified in Section 1.2 characterizes the listed length from Twentyfour mile Creek to the mouth, while the total length from the headwaters near the MT-ID border to the mouth is 24.3 miles. Additional clarifying language has been added to Table 2-3 to stress the point that the stream length values relate to all streams within a particular HUC.

Comment #11 - Section 2.6 states the following:

> …sediment sources and channel disequilibrium associated with the mainstem Prospect Creek have increased sediment production. The effects of these natural and anthropogenic watershed disturbances are reflected in the intermittent nature of Prospect Creek.
>
> If there is data to back up there generalizations it should be included as an appendix or, at the very least, referenced. Is there any evidence that Prospect Creek was ever perennial from headwaters to mouth? Is there any data demonstrating that Prospect Creek's excessive sediment load does not originate in the tributaries?

Response #11 - The section of 2.6 that you cite has been removed from the document. Data does exist that supports the claim that an increase in sediment has occurred due to anthropogenic sources and a change in channel geomorphology, however this data will be further detailed within the context of the companion TMDL document that focuses on impairments from non-metals pollutants.

Comment #12 - Section 2.6 lists 1964 as a "high magnitude flood" year, which disagrees with USGS records showing annual peak flows for the USGS Prospect Creek Gaging Station #12390700.

Response #12 - Given recent analysis of USGS gaging results on Prospect Creek (#12390700), the 1964 flood falls between a 2-5 year event, closer to a 5-year. We agree that based on the total period of record, the 1964 event does not stand out as necessarily "high magnitude". Based on the analysis, water years 1974 and 1996 are years that can reasonably be considered "high magnitude" flood years; years that equate to greater than a 25-year flood event. The document has been modified to reflect this comment and response.

Comment #13 - Section 2.9 on stream geomorphology states that "The combined effects of wildfire, floods, clearing and conversion of riparian vegetation, utility corridor and gas pipeline installation and associated maintenance activities, and highway encroachments have sensitized the river corridor." Here again there is no data to support the general statement. We are also unfamiliar with the term "sensitized" in this context. What is the time period associated with this statement, and how has the stream's geomorphology prior to that period been determined or surmised?

Response #13 - Sensitized has been removed and replaced with impacted. There exists volumes of information and references that show that wildfire, clearing and conversion of riparian vegetation, and any large scale disturbances within a watershed can alter the hydrology, pollutant loading, and geomorphology of fluvial ecosystems. Reference the work of Dr.'s Luna Leopold and Dave Rosgen for detailed descriptions of how these processes can alter stream form and function. For more detailed analysis of the geomorphology for Prospect Creek, please review the Prospect Creek TMDL for Sediment that will be available by the end of 2006.

Comment #14 - Figure 3-6 is not clear. Are the high flow and low flow points measured discharge or some other parameter? If they are discharge why do they not line up with the line graph?

Response #14 - The points shown on the graph on Figure 3-6 represent instantaneous flow measurements recorded at site S-6A. The purpose of Figure 3-6 is to show that measured streamflows from the defined high flow and low flow periods in the vicinity of where the metals loading analysis and source assessment were performed, correspond to high flow and low flow conditions documented by the continuous USGS stream gage near the mouth of Prospect Creek. Therefore, definition of high flow water quality data as that collected from April through June, and low flow data as that collected during other times of the year, appears to be valid. In order to clarify this, the following text changes/additions have been made to the first full paragraph on page 27:

Definition of high and low flow periods in the Prospect Creek watershed was determined by comparing individual flow measurements from site S-6A reported in the USAC dataset and by inspection of with the continuous flow hydrograph for Prospect Creek obtained from the USGS gage installed at the mouth of Prospect Creek (Figure 3-6). As shown in the figure, the S-6A instantaneous flow measurements from the defined high flow and low flow periods correspond to the high flow and low flow portions of the continuous flow hydrograph. This indicates that definition of water quality data collected between April through June as high flow data, and data collected from all other times of the year as low flow data, is appropriate.

Comment #15 - In table 4-1, among others, the Targets are not identified as total recoverable concentrations. Should they be?

Response #15 – Yes they should be. The document will be edited to reflect that the metals concentration targets are all total recoverable concentrations.

Comment #16 - Table 4-3 does not specify the units used.

Response #16 - Table 4-3 presents load values in lbs/day. The table will be noted to reflect the units.

Comment #17 - At the bottom of page 32 (Section 4.1) it refers to Section 1.1.3, which does not exist. The information referred to is in Section 1.1.2.

Response #17 - The document will be corrected to refer to Section 1.1.2.

Comment #18 - YPL applauds the good work that continues to be performed by fellow stakeholders in the Prospect Creek drainage; however, we hope that our own water quality improvement efforts in the watershed have had an equally positive effect.

Response #18 - Response: Acknowledged and agreed.